# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/660,242 | 09/11/2003 | Dharmendra Shantilal Modha | AM9990184US2 | 5338 |

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| EXAMINER |
|---|
| MOFIZ, APU M |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2165 | |

DATE MAILED: 04/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | Application No. | Applicant(s) |
| :--- | :--- | :--- | :--- |
| **Office Action Summary** | | 10/660,242 | MODHA ET AL. |
| | | Examiner ⌐ | Art Unit - |
| | | Apu M. Mofiz | 2165 |

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>11 September 2003</u>.

2a)☐ This action is **FINAL.**          2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-54* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

     1.☐ Certified copies of the priority documents have been received.

     2.☐ Certified copies of the priority documents have been received in Application No. _____.

     3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date 09/11/03

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

## DETAILED ACTION

### *Double Patenting*

1.      The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees.  See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).
        A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application.  See 37 CFR 1.130(b).
        Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer.  A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2.      Claims 1-54 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 of U.S. Patent No. 6,684,205 and claims 1-8 of U.S. Patent No. 6,862,586.  Although the conflicting claims are not identical, they are not patentably distinct from each other because claims of U.S. Patent No. 6,684,205 and 6,862,586 contain every element of claims 1-54 of the instant specification.

        "A later patent claim is not patentably distinct from an earlier patent claim if the later claim is obvious over, or anticipated by, the earlier claim. In re Longi, 759 F.2d at 896, 225 USPQ at 651."

### *Claim Rejections - 35 USC § 102*

3.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4.      Claims 1-6, 15-19, 28, 38-40 and 42-46 are rejected under 35 U.S.C. 102(a) as

being anticipated by Kuo et al., Web Document Classification based on Hyperlinks and

Document Semantics, August 2000, pages 44-51 and hereinafter referred to as Kuo.

        As to claims 1,3,15,28 and 42, Kuo teaches a method of searching a database

containing hypertext documents, said method comprising: searching said database

using a query to produce a set of hypertext documents, and clustering said set of

hypertext documents into various clusters such that documents within each cluster are

similar to each other, wherein said clustering is based upon words contained in each

hypertext document, out-links from each hypertext document, and in-links to each

hypertext document (i.e., "Web documents can usually be divided into disjoint sets based on

their document content. This problem is known as Web document Classification or Web

Document Categorization. Besides the content, web document also contains a set of hyperlinks

that points to other web documents. These sets of hyperlinks can provide information about

inter-relationship among web documents. In this paper, we will propose an algorithm to partition

a set of web documents based on their networked hyperlink structure. We will also present a

similarity definition between documents that is based on the document content to measure the

similarities between documents within a partition. The definition of similarity can be used to

prune some irrelevant documents away in order to maintain the consistency of the document

subset. ... Importance defines how important the document is among the set of documents by

considering a document's in-link and out-link. If importance is large, it means the document is

an important document, which is of high inter-relation with other documents. ... we will focus

on the similarity between documents within a subset of documents and retrieve the most

important document (the representative) in a subset. Due to the unstructured property of web

documents, ..." The preceding text excerpts clearly indicate that a set of web documents

retrieved from web databases are clustered into various clusters such that documents within each

cluster are similar to each other (i.e., discriminated and disambiguated from others). The

similarity is decided by their word content and their hyperlinks i.e., in-link and out-link. A

document subset/dictionary is created based on shared similar words or hyperlink status. The

subsets/dictionary are pruned when the similarity threshold (i.e., word or hyperlink network i.e.,

in-link or out-link) is crossed to maintain the consistency of the documents in the cluster. The

relative importance of documents are determined based on the content i.e., words or hyperlinks

i.e., in-links and out-links among other documents in the subset.) (page 44; page 45; page 46;

page 48).


As to claims 2,16 and 43, Kuo teaches wherein said set of hypertext documents

comprises a collection of unstructured, unlabeled documents and said clustering

organizes said set of hypertext documents into labeled categories that are discriminated

and disambiguated from each other (see explanations above) (page 44; page 45; page 46; page 48).

As to claims 4,17 and 44, Kuo teaches wherein said hypertext documents are considered similar if said hypertext documents share one or more of said words, said out-links, and said in-links (see explanations above) (page 44; page 45; page 46; page 48).

As to claims 5,18 and 45, Kuo teaches wherein said clustering includes determining a relative importance of said words, said out-links, and said in-links in an adaptive, data-driven process (see explanations above) (page 44; page 45; page 46; page 48).

As to claims 38,39 and 40, Kuo teaches pruning function words from said word dictionary (see explanations above) (page 44; page 45; page 46; page 48).

## Claim Rejections - 35 USC § 103

5.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.      Claims 6-14,19-27 and 46-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo as discussed in the rejections above in view of Pirolli et al., Silk

from Sow's Ear: Extracting Usable Structures from the Web, CHI 1996, pages 1-9 and

hereinafter referred to as Pirolli.

As to claims 6-14, 19-27 and 46-54, Kuo does not explicitly teach annotating

each cluster using information nuggets.

Pirolli teaches annotating each cluster using information nuggets (i.e., "We

developed methods for annotating pages with their functional types and relevancy/importance

assessments as well as aggregating the Web into collections which can be treated as collections.

... In particular, we have designed methods for classifying nodes into a number of functional

categories, spreading relevance based on selecting one or more source nodes and dimensions of

interest ... The degree of relevance of Web pages to one another can be conceived as similarities

among Web pages located in abstract space. ... One type of graph structure represents the link

topology of a Web locality by using arcs labeled with unit strengths to connect one graph node to

another when there exists a hypertext link between the corresponding Web pages. ... A second

type of graph structure represents the inter-page text content similarity by labeling arcs

connecting nodes with the computed text similarities between corresponding Web pages. This is

common way of conceptualizing documents in search-based information retrieval. ... This

analysis produces an adjacency matrix for the particular locality. ... From this, a vector that

contains each node's frequency of requests and a matrix containing the number of traversals

from one page to another are computed using software that identifies ... Another source of

information about relationship between pages is the similarity of their textual content.

Techniques from information retrieval [9] can be straightforwardly applied to calculate a

similarity matrix which provides a usable measure of this variable. ... The solution path we took

to determine the set of pages that comprise each class folds in the above usage, textual similarity,

and meta-information for each item in the Xerox Web space. Specifically, a new matrix was

created with each row representing an item and the columns representing the item's: . size, in

bytes, of the item . inlinks, the number of hyperlinks that point to the item from the Xerox Web

space . outlinks, the number of hyperlinks the item contains that point to other items in the

Xerox Web space. ... $Ci=W1V1+W2V2+ ... +WnVn$    (1) for all nodes I in Xerox Web space,

where Vj are the measured features of each Web page, and the Wj are weights." The preceding

text excerpts clearly indicate that collections/clusters/classes where web pages are similar are

annotated based on their similarity in hyperlinks i.e. in-links and out-links/citation and references

and textual contents i.e., words. Similarity vector/matrixes (i.e., a vector is a column matrix) are

created using features e.g., hyperlink i.e., in-link, out-link, citation, references and their

frequency i.e. how typical the feature is and weights.) (page 1, column 1; page 2, column 1,

column 2; page 3, column 1, column 2; page 5, column 1, column 2).

It would have been obvious to a person of ordinary skill in the art at the time of

Applicant's invention to modify the teachings of Kuo with the teachings of Pirolli to

include annotating each cluster using information nuggets with the motivation to

harness both the topology and textual similarity between items as well as integrate new

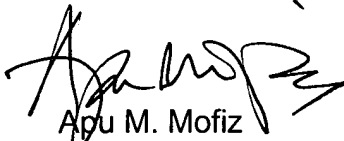analyses based upon a WWW space (Pirolli, page 1, column 1).

## *Points of Contact*

7.      Any inquiry concerning this communication or earlier communications from the examiner should be directed to Apu M. Mofiz whose telephone number is (571) 272-4080. The examiner can normally be reached on Monday – Thursday 8:00 A.M. to 4:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached at (571) 272-4146. The fax numbers for the group is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is  (703) 305-9600.

Apu M. Mofiz
Primary Patent Examiner
Technology Center 2100

March 22, 2006